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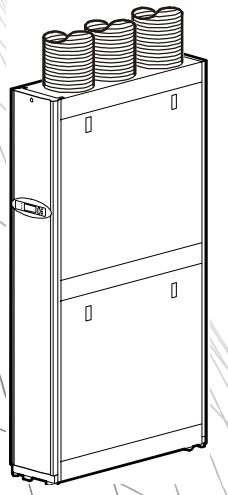
Installation

InfraStruXure® InRow SC

ACSC100
ACSC101



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General Information

Overview

Save these instructions

This manual contains important instructions that must be followed during the installation of this equipment.

Safety symbols that may be used in this manual

Electrical Hazard: Indicates an electrical hazard, which, if not avoided, could result in injury or death.

Danger: Indicates a hazard, which, if not avoided, could result in severe personal injury or substantial damage to product or other property.

Warning: Indicates a hazard, which, if not avoided, could result in personal injury or damage to product or other property.

Heavy: Indicates a heavy load that should not be lifted without assistance.

Caution: Indicates a potential hazard, which, if not avoided, could result in personal injury or damage to product or other property.

Tip Hazard: This equipment is easily tipped. Use extreme caution when unpacking or moving.

Note: Indicates important information.

Cross-reference symbols used in this manual

Indicates that more information is available on the same subject in a different section of this manual.

Indicates that more information is available on the same subject in a different manual.

Safety

Warning: Use the equipment on a flat and level surface.

Do not obstruct the air inlets and outlets of the equipment.

For indoor use only.

Do not attempt to service the equipment except to clean and replace the air filters. The equipment contains no other user-serviceable parts.

Do not place the rear of the equipment less than 8 inches (203 millimeters) away from any wall or obstacle.

Do not install the air conditioner where there are fumes or flammable gases, or in an extremely humid space such as a greenhouse.

Connect the equipment to the appropriate supply: The ACSC100 is rated 200–240 VAC, 60 Hz and requires 20 A overcurrent protection. The ACSC101 is rated 200–240 VAC, 50 Hz and requires 16 A overcurrent protection.

The equipment should only be used with the supplied power cord. Select the proper cord for your region.

The equipment contains refrigerant under pressure. Service should only be performed by qualified refrigeration technicians.

Electrical Hazard: Only APC-authorized personnel should connect this equipment.

Only connect this equipment to a single-outlet dedicated circuit.

This equipment has two power inlets, only one of which should be connected at a given time. Ensure both inlets are disconnected before servicing the equipment.

The plug serves as the disconnect for the equipment. Install the plug near the equipment where it is readily accessible.

Do not wear jewelry when working near energized components.

Tip Hazard: The equipment is easily tipped over. Use extreme caution when unpacking and moving the equipment. When using a forklift to move the equipment, make sure to lift only from the bottom.

When moving the equipment on a ramp, always point the narrow width in the direction of travel.

Heavy: This equipment is heavy. For safety, at least two people must be present when moving or installing.

Always check the floor loading before moving the equipment to its final location.

Caution: Keep your hands, clothing, and jewelry away from moving parts. Check the equipment for foreign objects before closing the doors and panels and starting the equipment.

Do not place this equipment on its side. If the equipment has been tipped, place it upright on a flat, solid surface and keep it in this position for a minimum of 24 hours before operating.

Note: All work should be performed by APC authorized personnel only.

Follow all local and national codes when installing this system.

Inspecting the Equipment

Your equipment has been tested and inspected for quality assurance prior to shipment from APC. To ensure that the equipment was not damaged during transit, carefully inspect both the exterior and interior of the equipment immediately upon receipt.

Verify that all parts ordered were received as specified. See “Inventory” on page 6.

Filing a claim

If damage is identified on receipt of the equipment, note the damage on the bill of lading and file a damage claim with the shipping company. Contact APC Worldwide Customer Support at one of the numbers listed on the back page of this manual for information on how to file a claim with the shipping company. The shipping claim must be filed at the receiving end of the delivery.

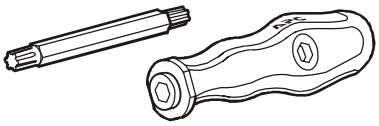
Note: In case of shipping damage, do not operate the equipment. Keep all packaging for inspection by the shipper and call APC at a number listed on the back cover of this manual.

Storing the Equipment Before Installation

Caution: Leaving the equipment uncovered and exposed to the elements can cause damage and will void the factory warranty.

Tools Required

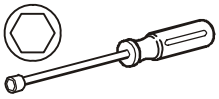
Provided



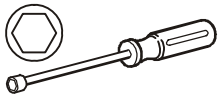
Combination Torx® screwdriver

Not provided

Phillips screwdriver



M4 nutdriver



M6 nutdriver

Moving the Equipment

Moving through door openings

See “Weights and Dimensions” on page 10. If any door opening does not meet minimum requirements, the opening will need to be modified.

Tip Hazard: The equipment is narrow and easily tipped over. Use extreme caution when unpacking and moving the equipment. When using a forklift to move the equipment, make sure to lift only from the bottom.

When moving the equipment on a ramp, always face the narrow width in the direction of travel.

Moving the equipment to its final location

Select the appropriate tools for moving the equipment. Each site will have different needs and considerations.

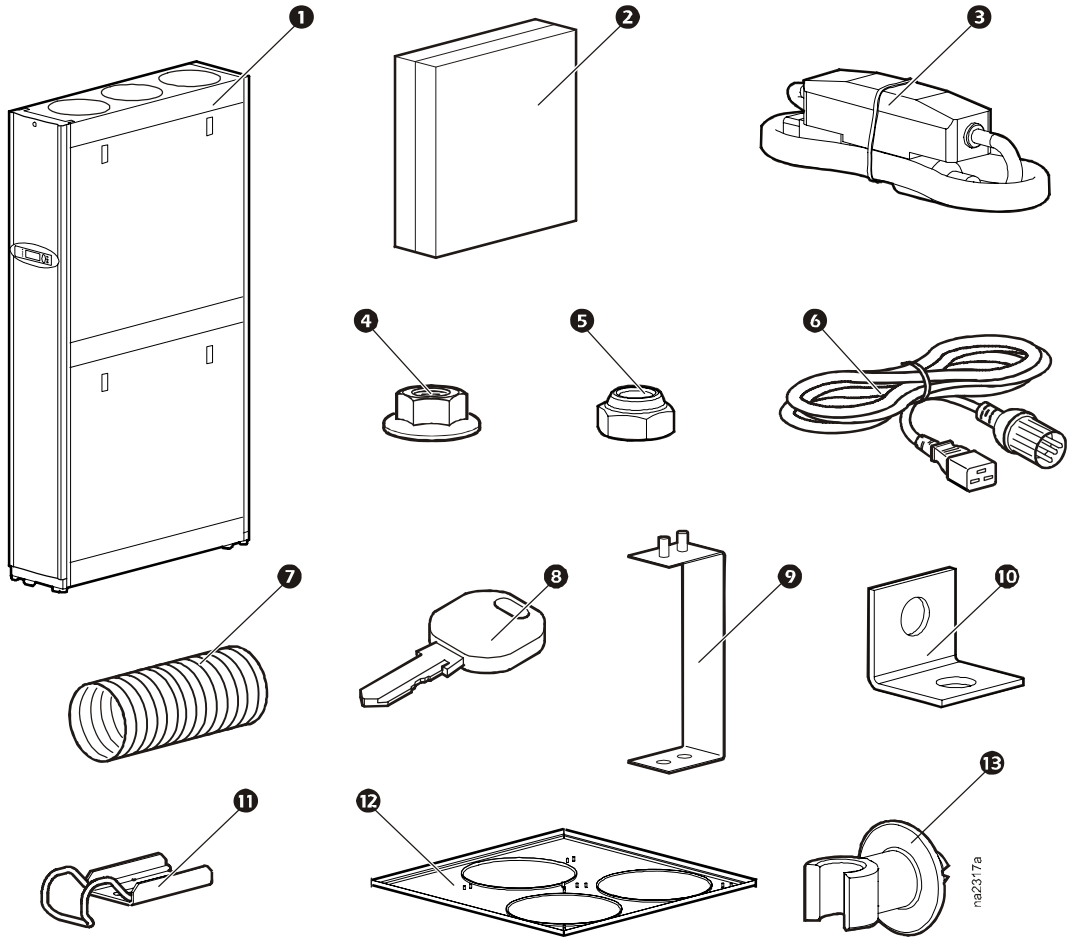
Pallet jack Forklift

Heavy: Do not attempt to move the equipment without the assistance of at least one other person.

Tip Hazard: The equipment is narrow and easily tipped over. Use extreme caution when unpacking and moving the equipment to its final location.

Warning: When using a forklift to move the equipment, leave it on the pallet and make sure to lift only from the bottom.

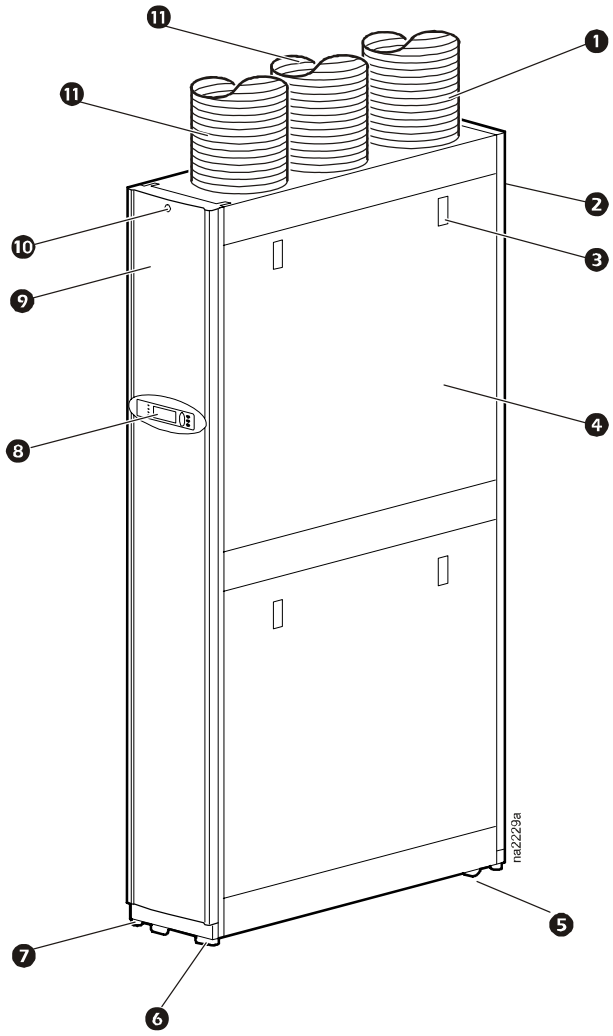
Inventory



Item	Description	Quantity
❶	InRow SC	1
❷	Accessory box (contains items 3 through 12)	1
❸	LCDI cord (60 Hz only)	1
❹	M4 x 0.7 MM hex nut	20
❺	M6 x 1.0 MM nylock nut	1
❻	IEC 309 cord (50 Hz only)	1
❼	Flex duct tube	3
❽	Key	2
❾	Standoff	4
❿	Bracket	1
⓫	Clamp	6
⓬	Ceiling tile adapter	1
⓭	Wire clips	3

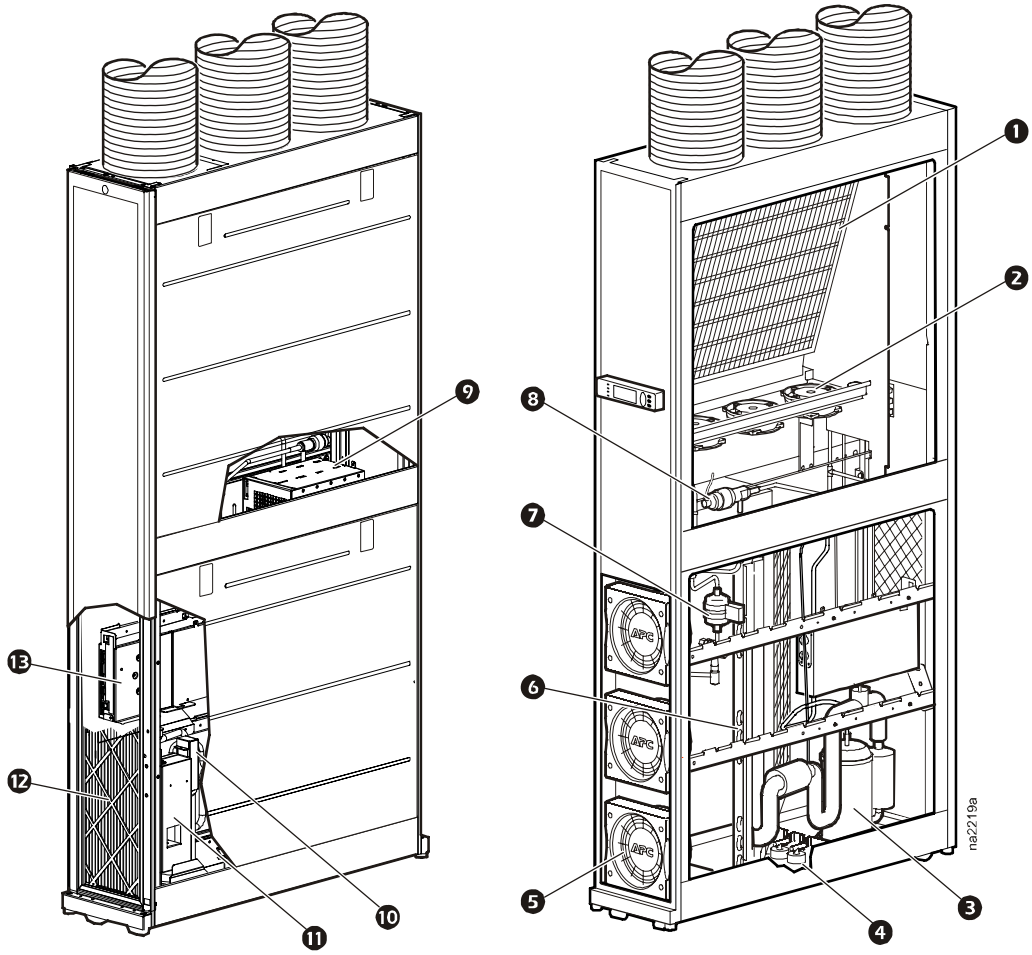
Component Identification

Exterior



1	Intake air duct	7	Adjustable leveling foot (4 places)
2	Removable rear door	8	Display interface
3	Side panel latch/lock	9	Removable front door
4	Removable side panel	10	Door lock
5	Rear Casters (Non-Swiveling)	11	Exhaust air duct
6	Front Casters (swiveling)		

Interior



1. Condenser coil
2. Condenser fans
3. Compressor
4. Condensate pan floats
5. Evaporator fans
6. Evaporator coil
7. Refrigeration filter/dryer
8. Hot gas bypass valve
9. Power supply
10. Condensate pump
11. High voltage box
12. Standard washable 1/2-inch air filter
13. User interface panel

Room Preparation

During the design of the data center, consider ease of entry for the equipment, floor loading factors, and accessibility to ducting and wiring.

Ensure the room is insulated to minimize the influence of exterior heat loads. Use the minimum required amount of fresh air for make up to comply with local and national codes and regulations. Fresh air imposes extreme load variation on the cooling equipment from summer to winter and causes increased system operating costs.

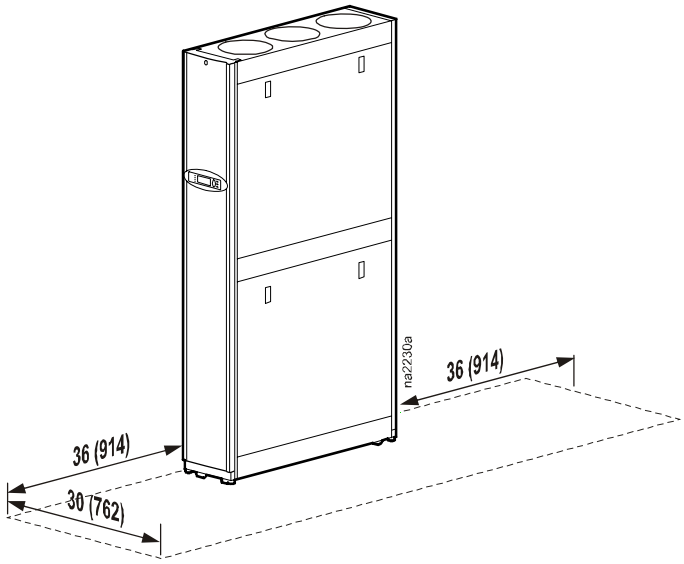
Incoming power supply requirements

The equipment must be grounded. Electrical service must conform to national and local electrical codes and regulations.

Service access

All required periodic maintenance can be performed from the front or back of the equipment.

For repair activities, disconnect the equipment and move it away from the row of enclosures into a clear area. Approximately 42 in (1070 mm) is required to free the equipment from the row of enclosures. Once the equipment is clear of the row, APC recommends approximately 36in (914 mm) of clear floor space in front and back of the equipment, plus 30 inches (762 mm) of clear floor space from the side you are accessing.



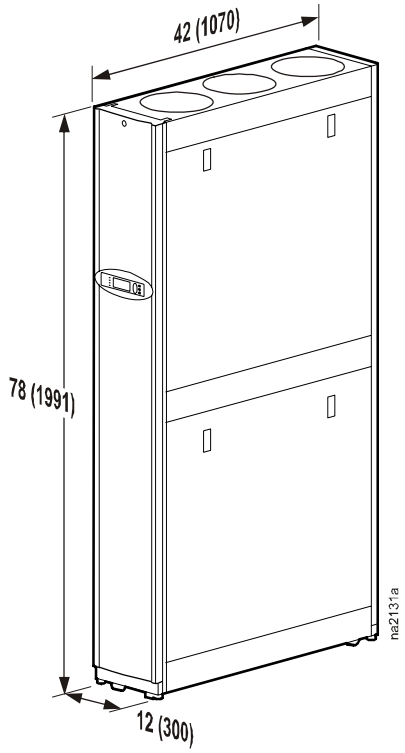
Dimensions are in inches (millimeters).

Weights and Dimensions

Weights

Net weight (equipment only)	358.5 lb (162.77 kg)
Shipping weight	529.0 lb (240.5 kg)

Dimensions



Dimensions are in inches (millimeters).

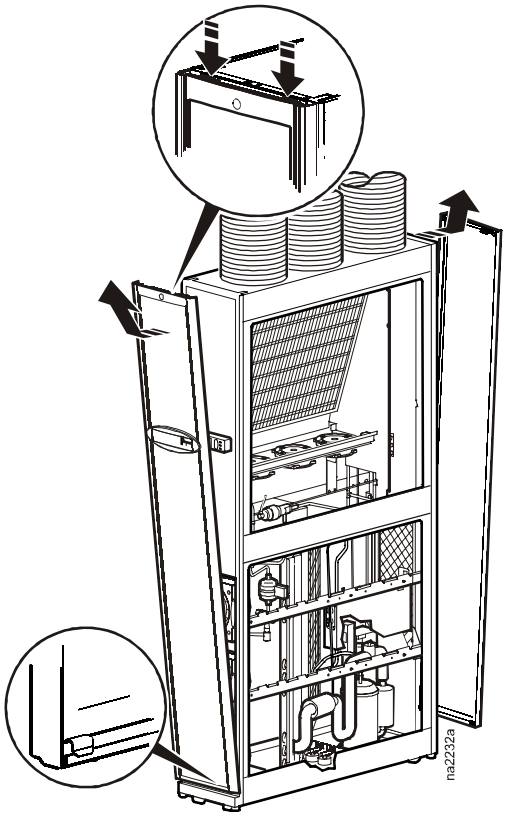
Installation

Removing Doors and Panels

Door removal

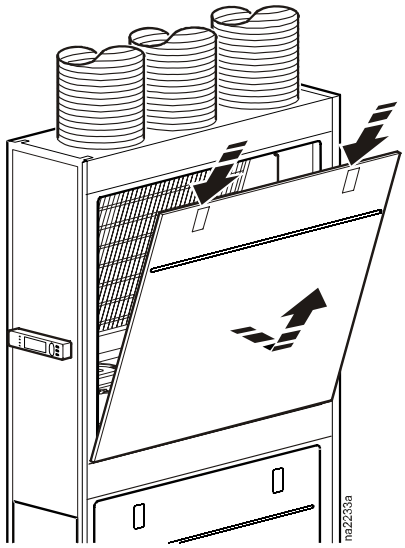
Warning: All doors and side panels must be locked during normal operation. Do not open side panels while fans are operating.

Caution: Use caution when removing the front and rear doors while equipment is operating.



Side panel removal

Note: Do not lean doors against a wall with the spring latches facing the wall. This can deform the spring latches and prevent them from properly working.



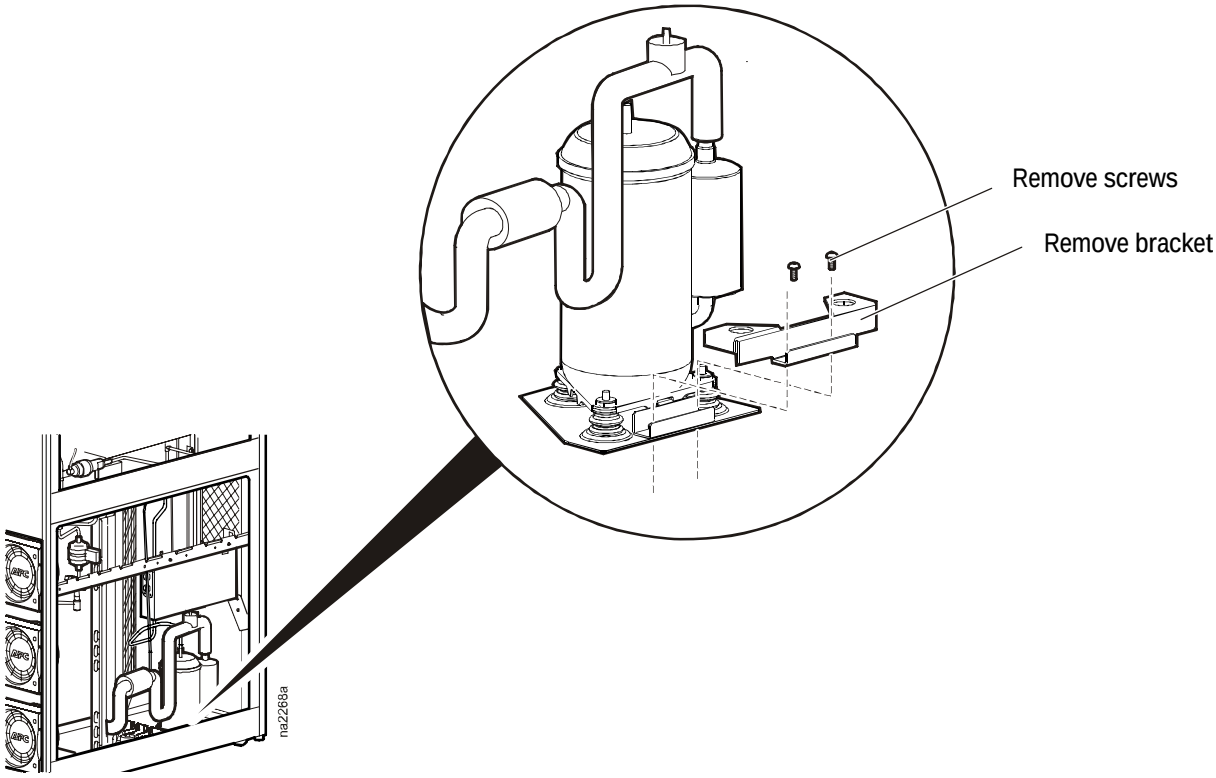
Positioning the Equipment

Remove compressor shipping brackets

Caution: Failure to complete the following steps may result in equipment damage and will void your warranty.

The compressor is secured by a two-piece bracket to prevent damage during shipping. This bracket must be removed prior to applying power to the equipment.

1. Remove two T30 Torx screws from the bracket as shown. Save the screws for possible later use.
2. Remove both halves of the bracket (only one bracket half shown) and save for possible later use.



Where to position the equipment

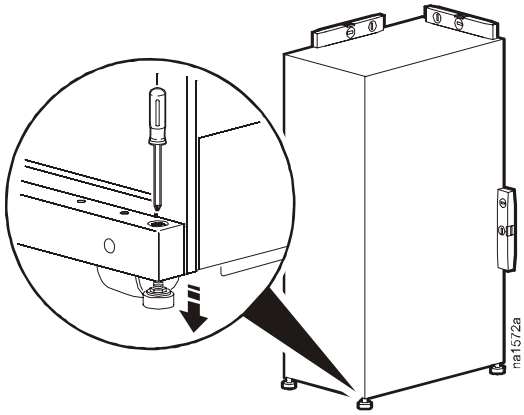
The equipment can be positioned inside or at the end of a row of enclosures, or stand alone in any desired location inside the data center.

Leveling

The leveling feet provide a stable base if the floor is uneven, but cannot compensate for a badly sloped surface.

Once the equipment is in its intended location, use a screwdriver to turn each leveling foot until it makes contact with the floor. Adjust each foot until the equipment is level and plumb.

You can remove the casters and leveling feet to allow the equipment to rest directly on the floor.

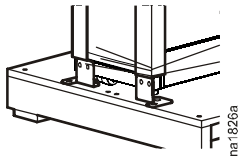


Tip Hazard: The equipment is narrow and easily tipped over. Use extreme caution when leveling the equipment to avoid tipping.

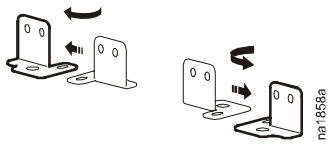
Stabilizing the Equipment

Floor brackets

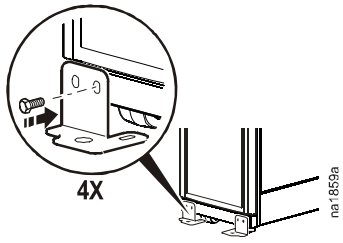
To prevent the equipment from moving from its final location (if not joined with another piece of equipment), re-use the hardware that secured the equipment to the shipping pallet.



1. Flip the four brackets around from their original position.



2. Reattach the brackets to the equipment using the same mounting holes and fasteners as when the equipment was attached to the pallet.
3. Attach the equipment to the floor using code-compliant fasteners only.



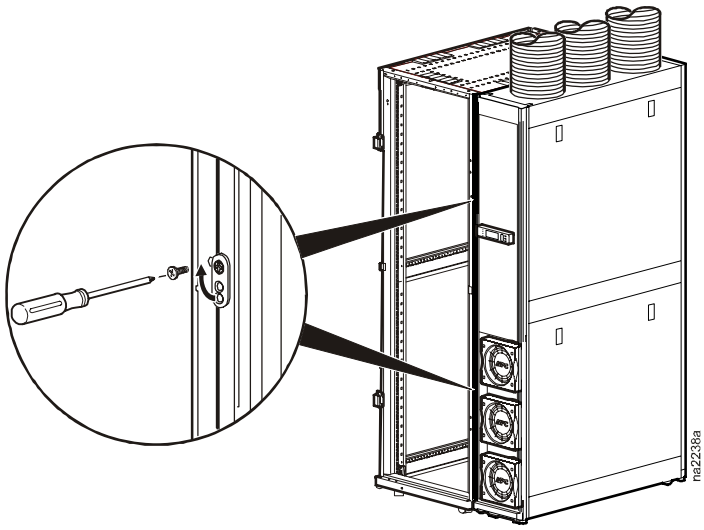
Joining to enclosures

SX enclosures. The equipment comes with two joining brackets installed on the front and two on the rear.

Remove the front and back doors. See “Door removal” on page 11.

Locate the four joining brackets on the equipment. Rotate each bracket 90° toward the adjoining enclosure, so that the bracket is parallel to the floor, and secure using the screws provided. One screw hole allows a 24-in spacing and the other allows 600-mm spacing.

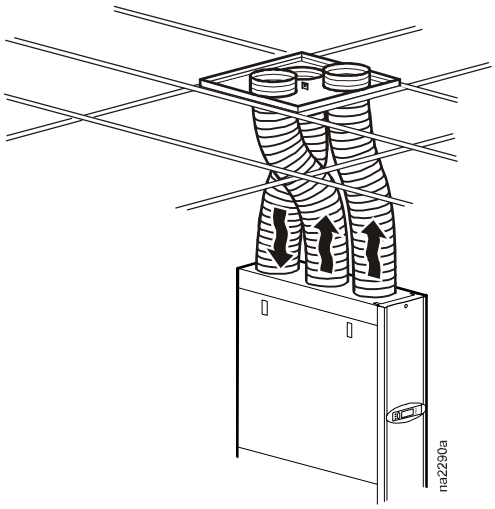
VX enclosures. The equipment may be joined to a VX enclosure by using an accessory kit (AR7602), sold separately.



Mechanical Connections

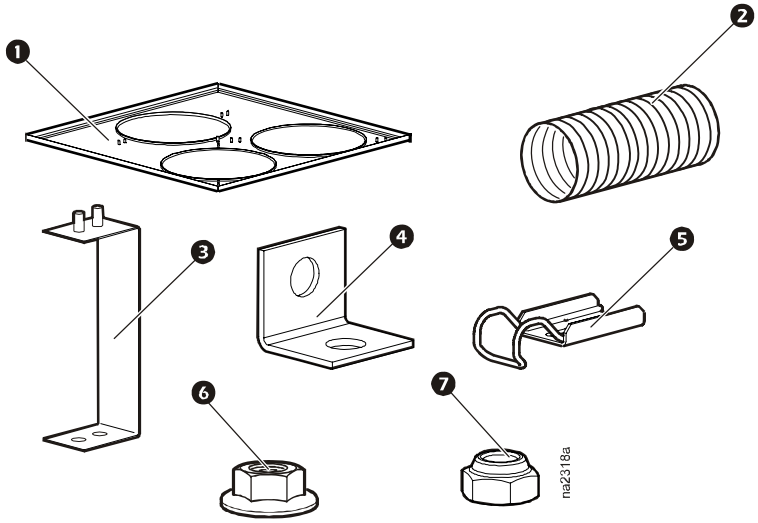
Intake and exhaust tube connections

The equipment requires the installation of one intake flex duct tube at the rear and two exhaust flex duct tubes to the middle and front. One of the exhaust tubes must always be installed in the single opening of the three-hole ceiling tile adapter as shown. Take your installation requirements into consideration when deciding where to place the ceiling tile adapter, and where to install the intake tube and the remaining exhaust tube. One possible configuration is shown. Ensure the three tubes are as similar in length as possible and avoid causing sharp bends in the tubes.



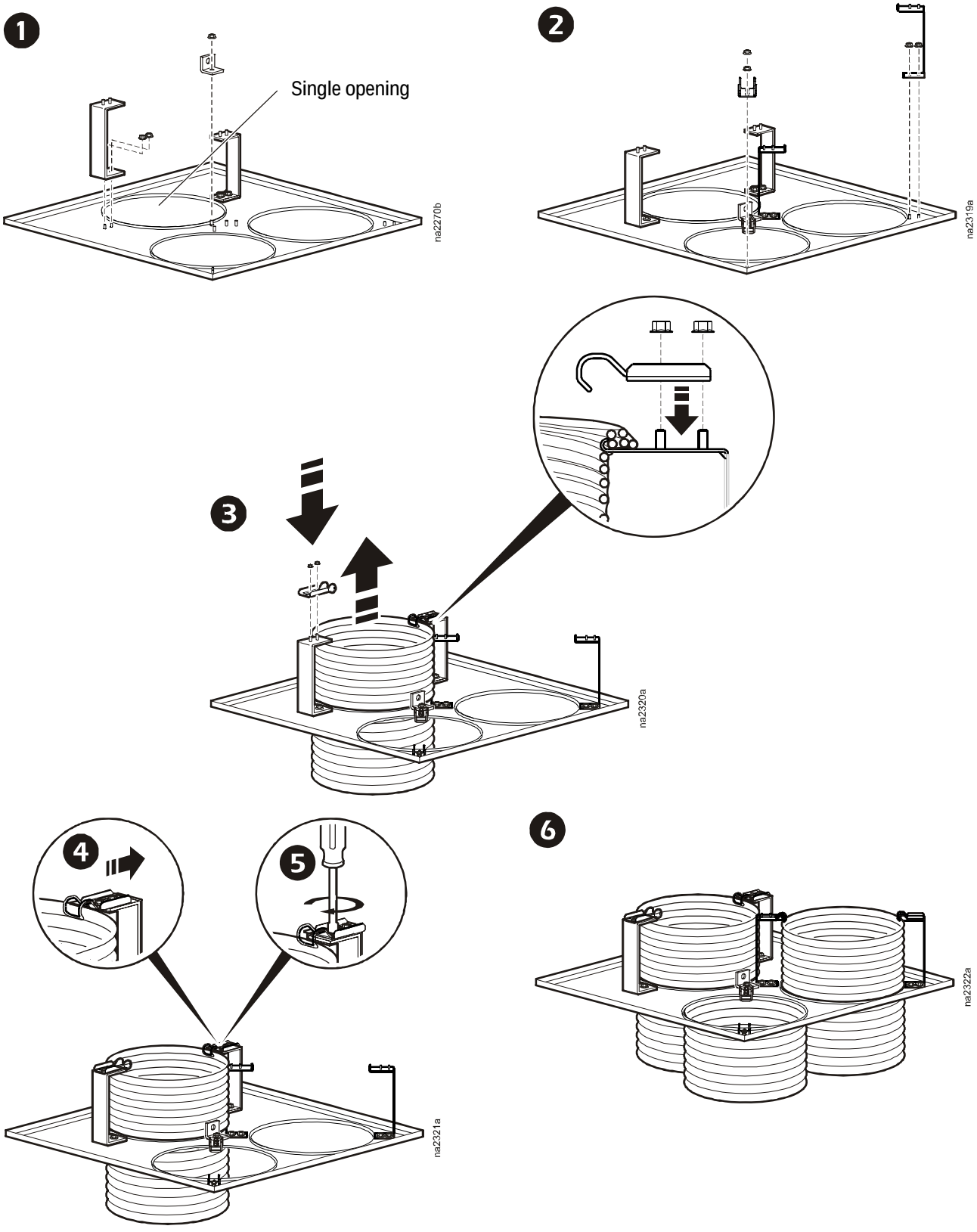
Note: The exhaust tubes normally protrude higher above the ceiling tile adapter than the intake tube.

Ceiling tile adapter inventory



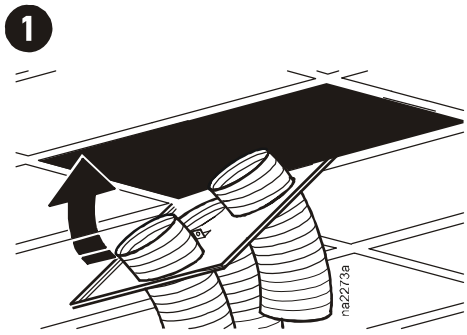
Item	Description	Quantity
1	Ceiling tile adapter	1
2	Flex duct tube	3
3	Standoff	4
4	Bracket	1
5	Clamp	6
6	M4 x 0.7 mm hex nut (use with clamps and standoffs)	20
7	M6 x 1.0 mm nylock nut (use with bracket)	1

Note: One exhaust tube must be installed in the single opening as shown. Depending on your configuration, the second exhaust tube may be installed in either of the two remaining openings. One possible configuration is shown.

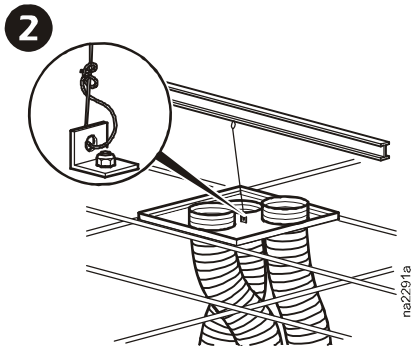


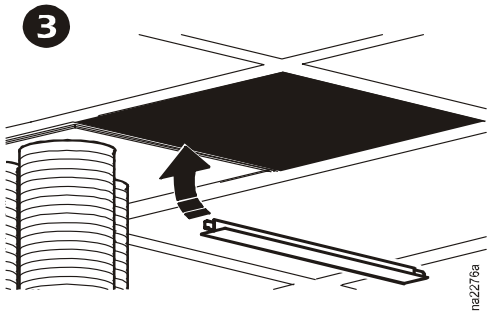
Install the adapter in a suspended ceiling.

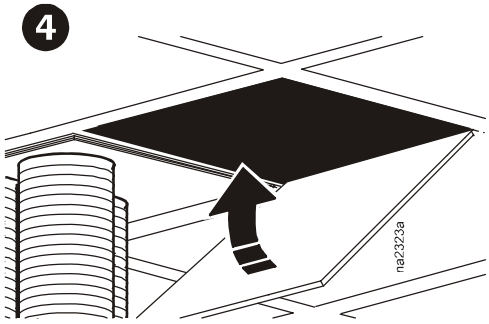
Note: There should be no less than 12 inches (30.5 centimeters) of open space above the ceiling adapter opening, so exhaust air is not blocked.

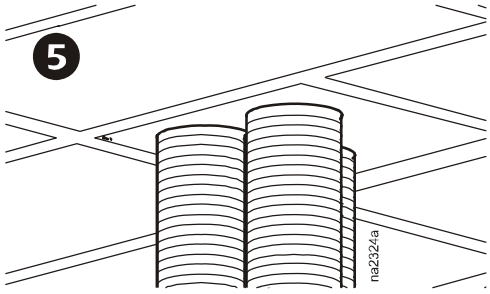


Caution: Use 10-gauge (minimum) steel wire to support the ceiling tile adapter as shown. Ensure the wire is anchored to the building's structural support (not the suspended ceiling frame).









Connect intake and exhaust tubes to the equipment.

1. Ensure the three tubes are as similar in length as possible and contain no sharp bends.
2. Trim any excess length.
3. Push each tube into its corresponding opening in the equipment top.

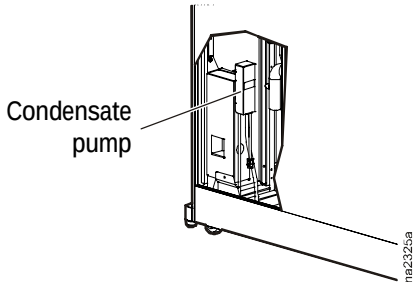
Ducting to an ambient environment. If necessary, the equipment may be ducted to an ambient (outside air) environment. If you choose to do so, you must obtain all components necessary for that installation. Comply with all local codes and observe the following requirements:

- Additional 10 in (250 mm) diameter tubes may be needed. Flexible metal tubes may be used.
- Route all three tubes to the ambient environment, and ensure the tubes are all of similar length.
- Avoid sharp bends in tubes that could cause a reduction in air flow.
- Insulate all tubes to prevent condensation on their outer surfaces (in winter, ambient temperature may be low enough that uninsulated tubes may sweat depending on room condition).
- Install screening or nets as necessary to prevent insects or other solid objects from entering the tubes.
- Install covers as necessary to prevent rain and snow from entering the tubes.

Note: Monitor equipment performance to ensure the venting installation is working properly. The capacity of the equipment will be reduced during very hot days.

Condensate pump

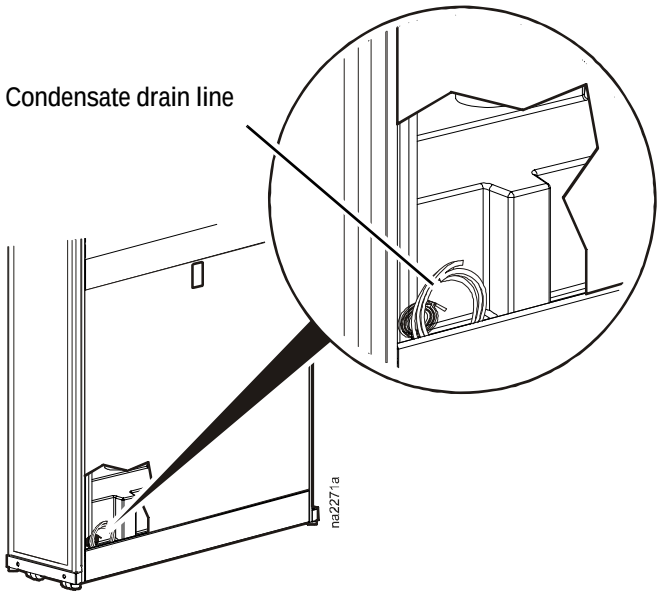
The pump is factory-wired and piped internally to the condensate pan. The pump is capable of moving liquid a maximum of 50 feet (15.2 m), which may include a maximum lift of 16 ft (4.9 m). For example, if your lift is 10 ft (3 m), you only have 40 ft (12.2 m) of usable run. The pump also uses an on-board condensate high level float switch, which is wired into the alarm input for local and remote alarm capabilities.



Warning: Do not exceed the lift or the run length of the drain system.

Condensate pump drain connection.

Warning: To prevent equipment damage from condensate, do not leave the condensate drain line coiled inside the unit. Route the condensate drain line out the top or bottom of the unit as shown.

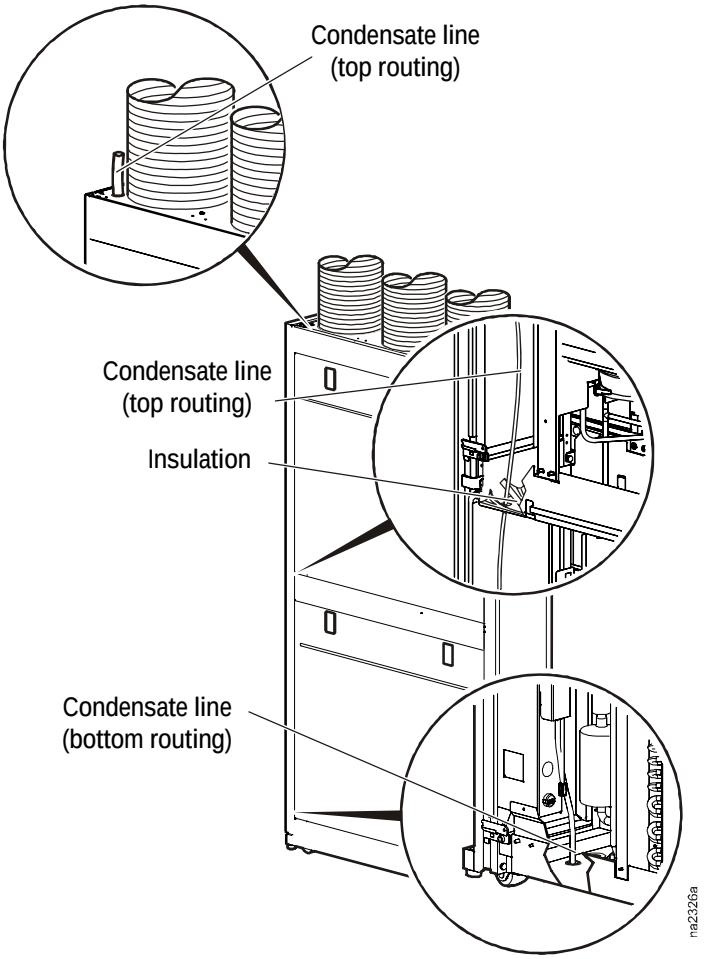


Sufficient PVC drain line is supplied to route the drain to the outside of the equipment. Provide additional drain line at installation to allow routing to a remote drain.

Routing the condensate pump drain line. The condensate drain line may be routed through the top or the bottom of the equipment.

Note: Comply with all local codes when installing the condensate drain line to the proper drain system.

Caution: Failure to properly route condensate drain line prior to operation could result in water damage.



Electrical Connections

Electrical connections are:

- Electrical power—required
- Network management (network card)—optional
- Communication (building management system)—optional
- Temperature sensor

All electrical connections must be in accordance with national and local codes.

Refer to the equipment nameplate for voltage and current requirements.

Disconnect the power cord before performing any maintenance.

All low-voltage connections, including data and control connections, must be made with properly insulated wires. The low voltage wires and connections must have 300-V minimum insulation.

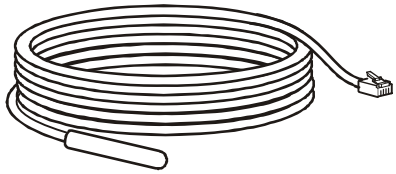
Electrical Hazard: Potentially dangerous and lethal voltages exist within this equipment. More than one disconnect may be required to energize or de-energize this equipment. Observe all cautions and warnings. Failure to do so could result in serious injury or death. Only qualified service and maintenance personnel should attempt to work on this equipment.

Warning: Use a voltmeter to ensure that power is turned off before making any electrical connections.

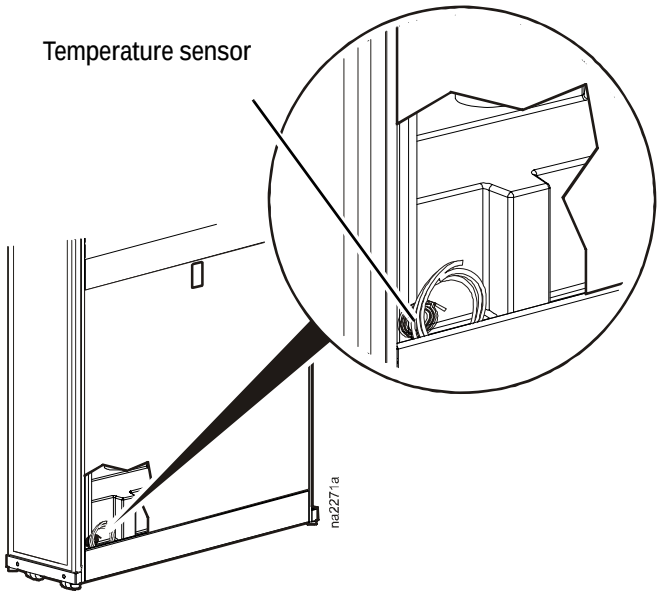
Note: Single phase service is required. Electrical service must conform to national and local electrical codes. The equipment is grounded through the power cord.

Temperature sensor

When the equipment is configured for the operating mode “InRow” or “RACS”, the temperature sensor (AP9335T) monitors the environment surrounding the equipment to ensure that the conditioned air is cooling the desired area.

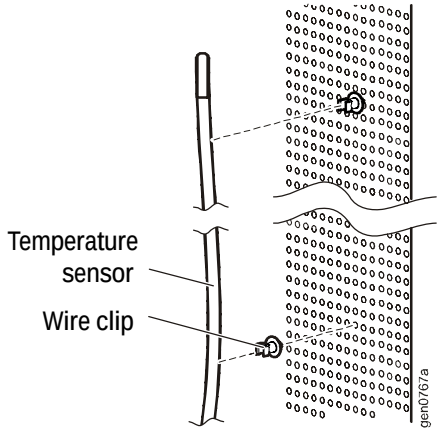


Note: The temperature sensor comes coiled inside the unit as shown, and must be mounted as directed below, or the equipment will not operate properly.



Connect the temperature sensor.

1. Route the temperature sensor through the bottom or top of the equipment to the front (entering air side) of the enclosure immediately to the left or right of the equipment.
2. Secure the temperature sensor bulb in front of the warmest heat source in the enclosure. Do not secure in front of a blanking panel.
3. Secure the temperature sensor cord to the enclosure at multiple locations using the provided wire clips.



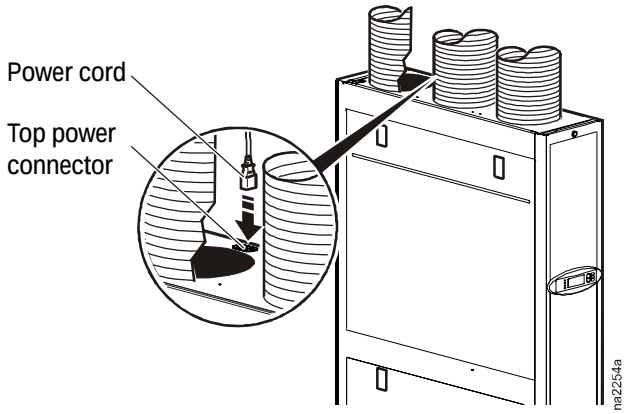
Power connections

Power cords may be connected to the top of the equipment (standard) or routed through the bottom (optional).

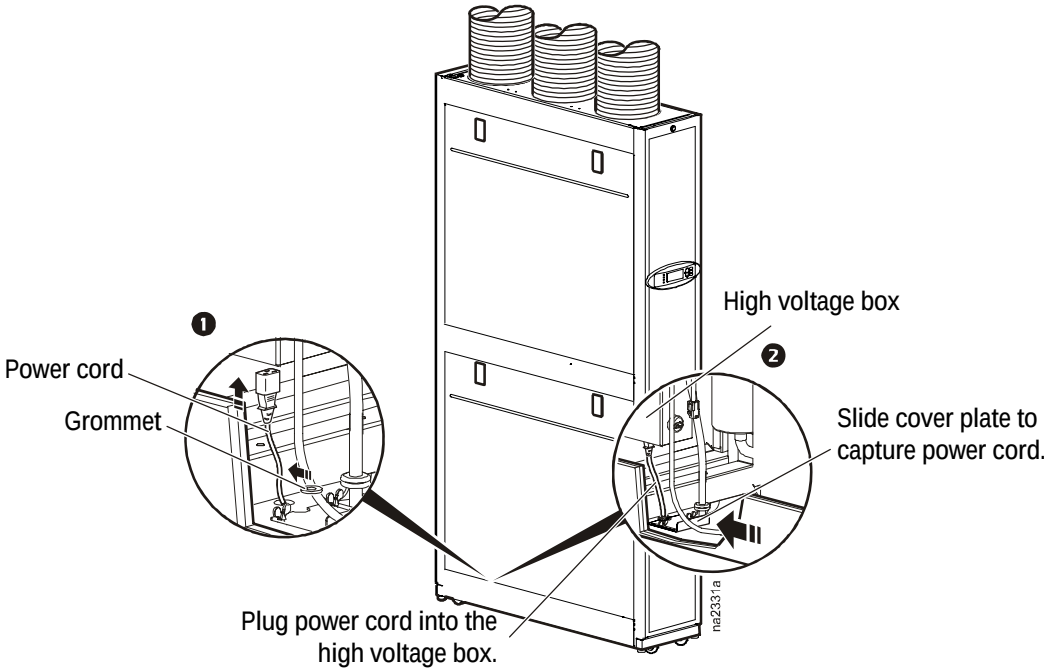
Electrical Hazard: The equipment is supplied with either an LCDI power cord (for 60 Hz operation) or an IEC 309 power cord (for 50 Hz operation). Use the equipment only with the supplied power cord appropriate for your region. Replacement power cords must be purchased from APC only.

Note: Use only one connection.

Connect the power cord to the top power connector.

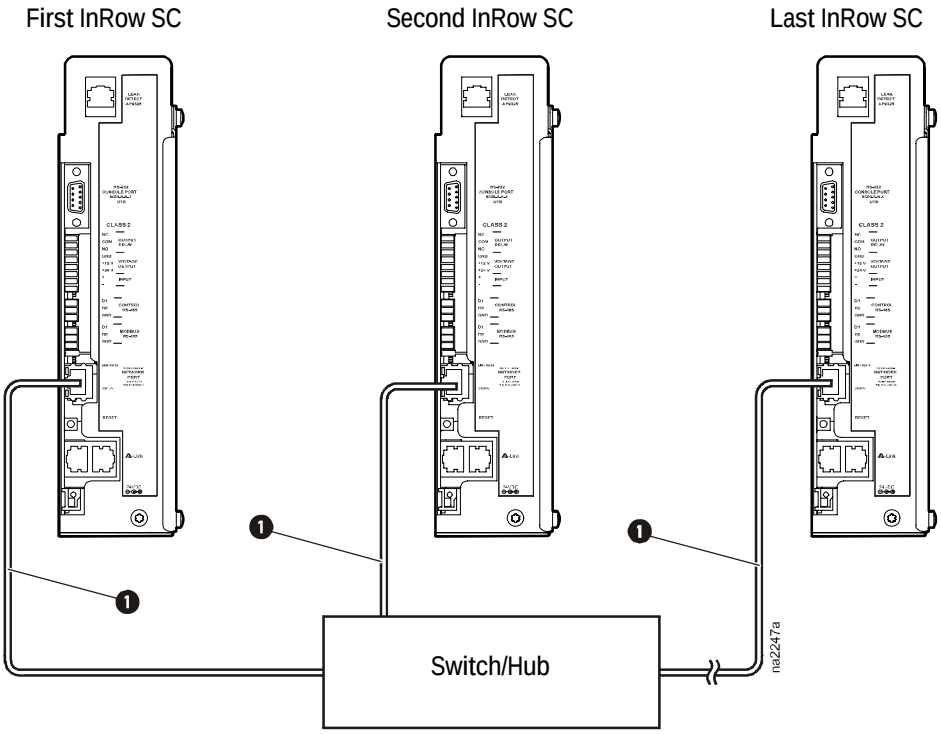


Connect the power cord to the bottom power connector.



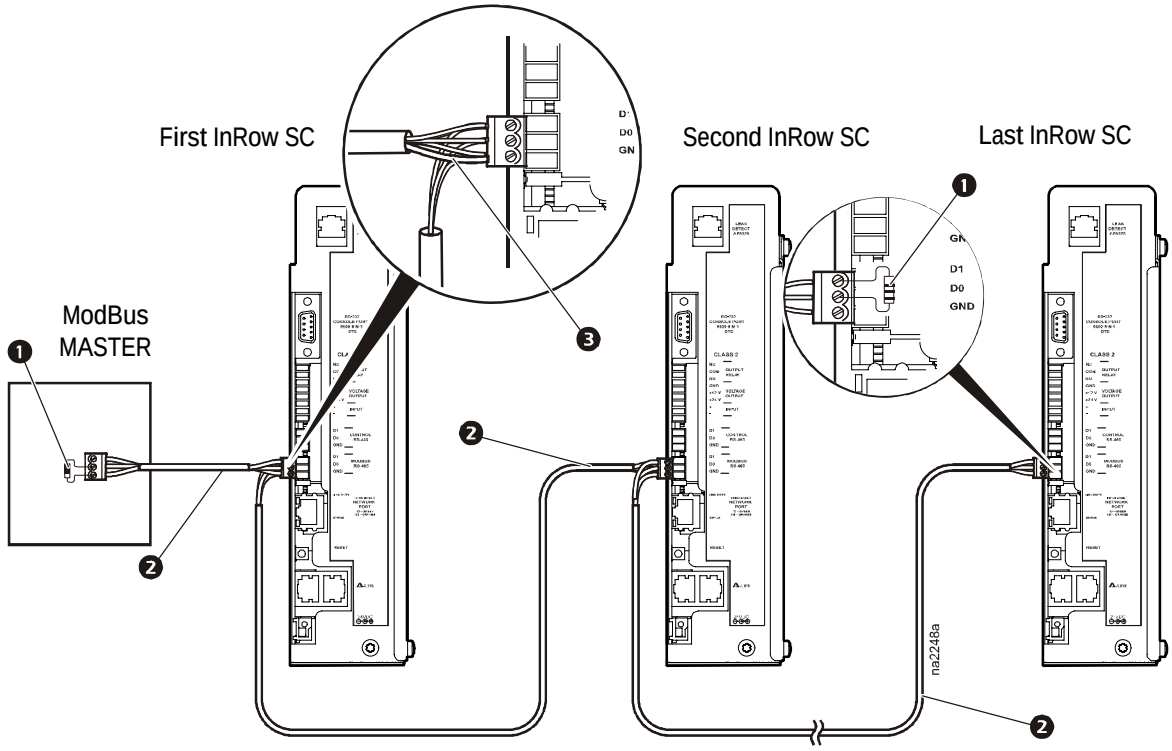
Warning: Ensure the equipment power input is disconnected before servicing.

Network Port (P1)



❶ CAT-5 LAN cable (10/100 Base-T)

MODBUS (P2)—building management system



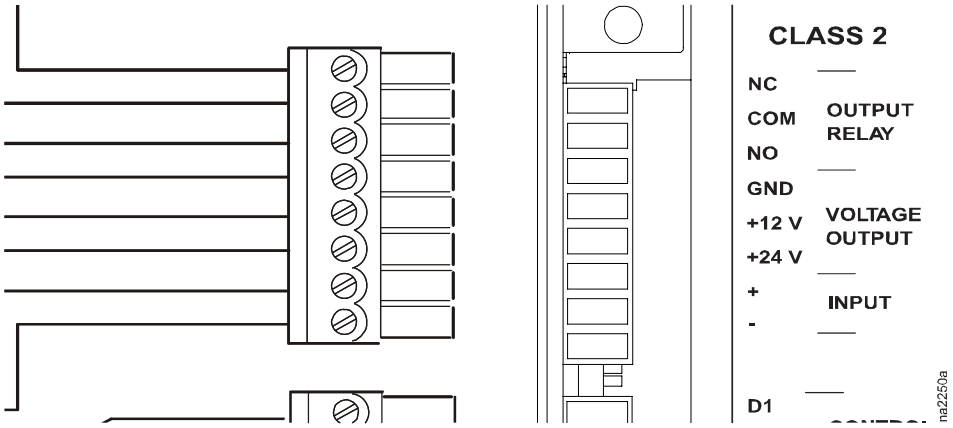
❶ 150Ω 5% termination resistor (provided)

❷ MODBUS cable (RS-485) segment

❸ Shield

Note: Connect the shield only once per segment. For example, the shield is connected at InRow SC #1, but not at the MODBUS master.

Form C alarm contacts and shutdown input (P5)

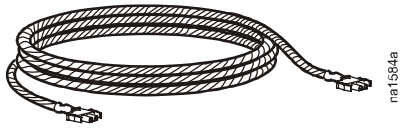


A relay internal to the user interface is typically controlled by a user-defined alarm (malfunctioning fans, for example). Prior to the alarm, the signal on the COM (common) terminal is routed to the NC (normally closed) terminal. When the alarm is activated, the relay is energized, causing the signal on the COM terminal to be routed to the NO (normally open) terminal. The NO and NC terminals could be connected to remote indicator lights, a warning buzzer, or another device to alert an operator to the presence of an alarm condition.

A remote disconnect switch may be connected to the shutdown inputs.

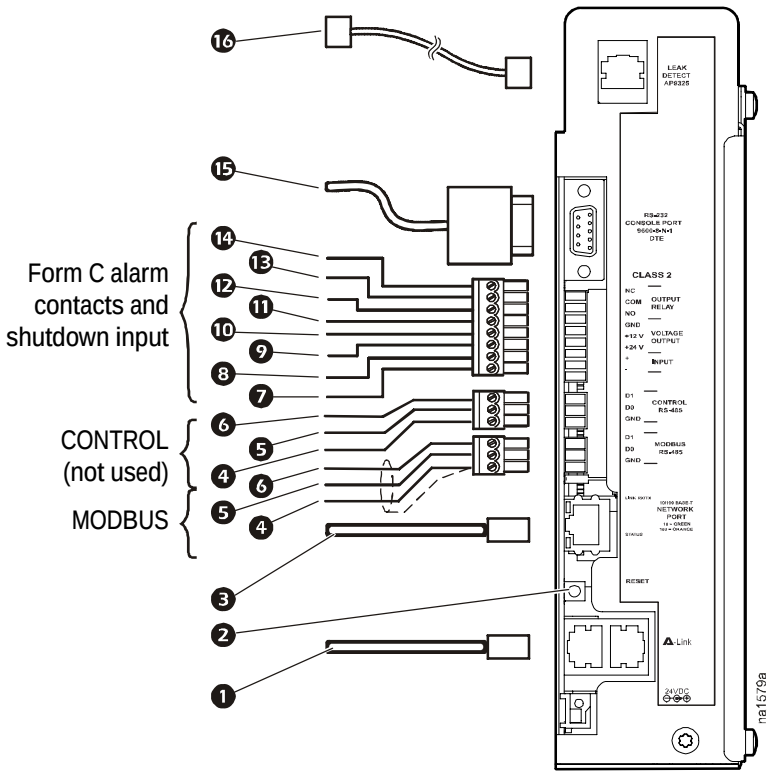
Leak detector port

Rope water detector (AP9325). You can install up to four optional rope water detectors in series. The rope water detector connects to the RJ-45 leak detector port located at the top of the interface box.



See the “Rope Water Detector” installation manual, supplied with the kit, for installation and setup.

User interface box

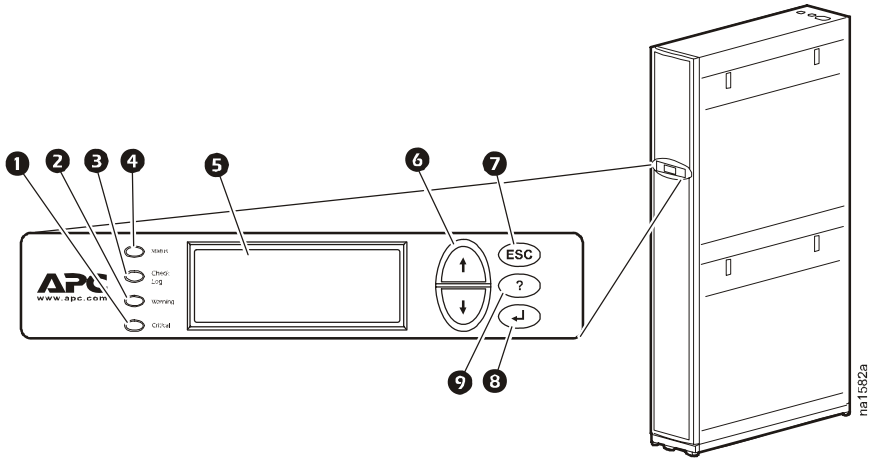


❶	Not used	❾	24 VDC (bias) - 20 mA is the maximum current allowed from this voltage output port
❷	Reset button	❿	12 VDC (bias) - 20 mA is the maximum current allowed from this voltage output port
❸	Network port (for ethernet cable CAT-5 10/100 Base T)	⓫	Return (bias)
❹	Modbus shield/ground	⓬	NO - normally open
❺	Modbus (A- = True)	⓭	COM - common
❻	Modbus (B+ = True)	⓮	NC - normally closed
❼	Shutdown - (for remote shutdown)	⓯	RS-232 console port (see the InfraStruXure InRow SC *Service* Manual)
❽	Shutdown + (for remote shutdown)	⓰	Leak detector (AP9325)

Startup and Commissioning

Display Interface

Overview



Item	Function
❶ Critical LED	When red, a critical alarm condition exists.
❷ Warning LED	When yellow, a warning alarm condition exists.
❸ Check Log LED	When yellow, at least one new event has occurred to this piece of equipment since the log was last checked.
❹ Status LED	When green, the equipment is on. Blinks when firmware is being upgraded.
❺ Liquid Crystal Display (LCD)	View alarms, status data, instructional help, and configuration items.
❻ Up and down arrow keys	Select menu items and access information.
❼ ESC key	Return to the previous screen or cancel the current operation.
❽ ENTER key	Open menu items and input changes to equipment settings.
❾ HELP key	Display context-sensitive help. Press the HELP key for information about each option on the screen and for instructions on how to perform tasks.

Using the Display Interface

Scrolling status screens

The first time you apply power to the equipment, the display initializes and runs an LED and alarm-tone test. After the LED and alarm-tone test a new screen appears, indicating communication is being established.

Once communication is established, the interface display scrolls automatically and continuously through the following two screens of status information.

Status Screen Name	Status Information Displayed
Status	• State • Module ID • Name and Location
InRow SC	• Alarm State • Cool Output • Air Flow • Rack Inlet Temperature

Press the up or down arrow key to interrupt the automatic scrolling and view a specific status screen. Scrolling will resume if no keys are pressed for 5 seconds. To return to the main menu screen, press the ESC key.

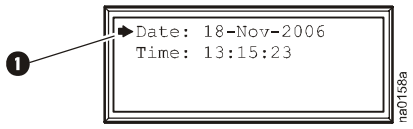
Main menu screen

On any top-level status screen, press the ENTER or ESC key to open the main menu screen.

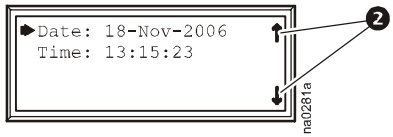
Note: The display interface is inactive for three minutes (the default delay), it will return to the scrolling status screens. To change this delay, use the **time-out** setting under the **Password** menu.

Navigating the interface

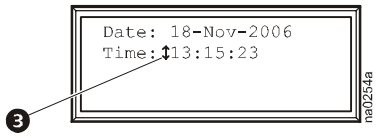
Selector arrows. Press the up or down arrow key to move the selector arrow ❶ to a menu option or setting. Press the ENTER key to view the selected screen or modify the setting.



Continue arrows. Continue arrows ❷ indicate that additional options or settings are available on a menu or status screen. Press the up or down arrow key to view the additional items.



Input arrows. Input arrows ❸ next to a selected setting indicate that the setting can be modified by pressing the up or down arrow key. Press the ENTER key to save the change or the ESC key to cancel the change.



Password entry

The equipment has two levels of password protection:

- **Device password** for users who need to change basic and environmental settings
- **Admin password** for users who need to modify settings that control the components in the Module or change advanced options

When you try to change any of the settings, the display prompts you to enter your password.

Note: Passwords are case-sensitive.

The default value for both the **Device** and **Admin** password is **apc** (lower case). To enter your password, use the up or down arrow keys to scroll through the available character set. At the desired character, press the ENTER key to select it and move the cursor to the next position. After selecting the last character of your password, press the ENTER key once more to submit your password.

Start the equipment

Path: Main Menu > On/Standby

To start the equipment, select the **On/Standby** option on the main menu and change the setting to **On**. The equipment will run according to the current settings.

Change settings

To change a setting, use the up or down arrow key to move the selector arrow to the setting, and press the ENTER key.

List of choices. If the setting is a list of choices, an input arrow is displayed next to the setting. Press the up or down arrow key to make your selection. Press the ENTER key to save the setting and exit from input mode. Press the ESC key to exit without saving.

Numbers or text fields. If the setting is a number or text field, use the arrow keys to select the value for the first character, and press the ENTER key to move to the next character position. Repeat this procedure to select and set each character. After the last character is set, press the ENTER key to save the setting and exit from input mode. Press the ESC key to exit without saving.

Stop the equipment

Path: Main Menu > On/Standby

To stop the equipment, select the **On/Standby** option on the main menu and change the setting to **Standby**.

Checklists

Initial Inspection Checklist

Ensure that the:

❑	Installation procedure is complete according to the installation manual.
❑	Installation procedure is complete according to the installation manual.
❑	Equipment shows no signs of damage.
❑	Clearance around the equipment is in accordance with ASHRAE, local, and national codes as well as the installation manual.
❑	Ensure the equipment is either secured to an enclosure or fastened to the floor.

Equipment must be properly de-energized and locked-out prior to performing any service on this equipment.

Never operate the equipment unless all covers, guards, doors, and panels are in place and locked.

Electrical Inspection Checklist

Ensure that the:

❑	Incoming voltages match the phase and voltage listing on the nameplate.
❑	Equipment is properly grounded to an earth ground.
❑	Internal electrical components and terminal blocks do not have any loose connections.
❑	Electrical connections are tight, including controllers and auxiliary devices.
❑	Wiring is routed and secured to avoid hazardous situations.

All electrical wiring must comply with national and local codes.

The equipment is grounded through its power cord. Ensure the equipment is connected to a grounded outlet.

Mechanical Inspection Checklist

Ensure that the:

❑	Condensate drain line is the size of the drain connection and is routed properly.
❑	Condenser air is properly ducted to the ceiling tile adapter.
❑	Ceiling tile adapter is secured to the building structure with properly-sized safety wire.
❑	Leveling feet are down and the equipment is properly leveled.

User Interface Box Inspection Checklist

Ensure that the:

❑	Input contacts and output relays (if applicable) are connected correctly.
❑	Building management system RS-485 port is connected properly (if connecting to a building management system).
❑	Temperature sensor is properly routed and mounted on the front (entering air side) of the enclosure immediately to the left or right of the equipment (provided “InRow” or “RACS” operating mode will be selected).

Final Inspection Checklist

Ensure that the:

❑	Interior and exterior of the equipment are clean and free from debris.
❑	Packaging materials are disposed of properly.
❑	The start-up form is filled in and sent to APC.

Specifications

Electrical

Input voltage	200–240 VAC; 1 Ph
Frequency	60 Hz (ACSC100) 50 Hz (ACSC101)
Rated current	14.4 A
Power consumption	2,940 W

Physical

Physical dimensions W × D × H	12 × 42 × 78 in 300 × 1070 × 1991 mm
Net weight (equipment only)	358.5 lb (162.77 kg)
Shipping weight:	529.0 lb (240.5 kg)

HVAC

Compressor type	Rotary
Refrigerant	R410A
Air filter (W875-2010) W × D × H	36.75 x 9.38 x 0.50

Condensate Management

Hose length	50 ft (15.24 m) with 16 ft (4.88 m) vertical lift maximum
Hose diameter	1/4 in (6.35 mm) ID

Warranty

Warranty Statement

The limited warranty provided by American Power Conversion Corporation (“APC”) in this Statement of Limited Factory Warranty applies only to Products you purchase for your commercial or industrial use in the ordinary course of your business.

LIMITED FACTORY WARRANTY

APC product covered

InRow SC

Terms of warranty

APC warrants that the Product shall be free from defects in materials and workmanship for a period of one (1) year from the date of start-up when APC authorized service personnel performed the start-up of the Product, or a maximum of 18 months from the date of Product shipment from APC, when APC authorized service personnel have not performed the start-up of the Product (“Warranty Period”). In the event that the Product fails to meet the foregoing warranty, APC shall repair or replace any defective parts, such repair or replacement to be without charge for on-site labor and travel if APC authorized personnel have conducted start-up of the Product. An APC Start-Up Service must be performed/ completed by APC authorized service personnel or replacement of defective parts only will be covered. APC shall have no liability and no obligation to repair the installed Product if non-authorized personnel performed the start-up and such start-up caused the Product to be defective. Any parts furnished under this warranty may be new or factory-remanufactured. **This warranty does not cover** circuit breaker resetting, loss of refrigerant, consumables, or preventative maintenance items. **Repair or replacement of a defective product or part thereof does not extend the original warranty period.**

Non-transferable Warranty extends to first purchaser for use

This Warranty is extended to the first person, firm, association or corporation (herein referred to by “You” or “Your”) for whom the APC Product specified herein has been purchased. This Warranty is not transferable or assignable without the prior written permission of APC.

Assignment of warranties

APC will assign to you any warranties which are made by manufacturers and suppliers of components of the APC Product and which are assignable. Any such warranties are assigned “AS IS” and APC makes **no representations** as to the effectiveness or extent of such warranties, assumes NO RESPONSIBILITY for any matters which may be warranted by such manufacturers or suppliers and extends no coverage under this Warranty to such components.

Drawings, descriptions

APC warrants for the Warranty Period and on the terms of the Warranty set forth herein that the APC Product will substantially conform to the descriptions contained in the APC Official Published Specifications or any of the drawings certified and agreed to by an authorized APC representative, if applicable thereto (“Specifications”). It is understood that the Specifications are **not warranties of performance** and **not warranties of fitness for a particular purpose**.

Warranty claims procedure

To obtain service under Warranty, contact APC Customer Support at a number on the back cover of this manual. You will need the model number of the Product, the serial number, and the date purchased. A technician will ask you to describe the problem. If it is determined that the Product will need to be returned to APC you must obtain a returned material authorization (RMA) number from APC Customer Support. Products that must be returned must have the RMA number marked on the outside of the package, and be returned with transportation charges prepaid. If it is determined by APC Customer Support that on-site repair of the Product is allowed, APC will arrange to have APC authorized service personnel dispatched to the Product location to repair or replace the Product at the discretion of APC.

Exclusions

APC shall not be liable under the Warranty if its testing and examination discloses that the alleged defect in the product does not exist or was caused by your or any third person's misuse, negligence, improper installation or testing, unauthorized attempts to repair or modify, or any other cause beyond the range of the intended use, or by accident, fire, lightning or other hazard.

There are no warranties, expressed or implied, by operation of law or otherwise, of products sold, serviced or furnished under this agreement or in connection herewith. APC disclaims all implied warranties of merchantability, satisfaction and fitness for a particular purpose. The APC express warranties will not be enlarged, diminished, or affected by and no obligation or liability will arise out of APC rendering technical or other advice or service in connection with the products. The foregoing warranties and remedies are exclusive and in lieu of all other warranties and remedies. The warranties set forth above, constitute sole liability of APC and your exclusive remedy for any breach of such warranties. THE warranties EXTEND only to you and are not extended to any third parties.

In no event shall APC, its officers, directors, affiliates or employees be liable for any form of indirect, special, consequential or punitive damages arising out of the use, service or installation of the products, whether such damages arise in contract or tort, irrespective of fault, negligence or strict liability or whether APC has been advised in advance of the possibility of such damage.

Warranty Procedures

Claims

You will need the model number of the Product, the serial number, and the date purchased. A technician will also ask you to describe the problem. If you need to return the Product to APC, obtain a returned material authorization (RMA) number from APC Customer Support. Returned products must have the RMA number marked on the outside of the package, and be returned with transportation charges prepaid. If APC Customer Support determines that on-site repair of the Product is allowed, APC will arrange to have APC-authorized service personnel dispatched to the Product location for repair or replacement, at APC's discretion.

Labor

- APC will support labor costs if a quality issue is found during start-up that is determined to be caused by workmanship or a factory defect.
- The mechanical contractor performing the repairs must call APC technical service to obtain a repair authorization number before any work is started.
- The mechanical contractor must provide detailed information (photos, start-up sheets) to APC technical service before any repairs are started.
- If any repairs are performed without prior authorization, APC will not pay for any labor cost.
- APC will not support claims for any of the following:
  - Truck rental
  - Travel time
  - Rental on recovery machine and cylinders
  - Gas mileage
  - Solder, flux, sil-phos, silver solder, and silver solder flux.
- APC will pay for $2.50 per pound for refrigerant

Parts

- APC warrants the parts of their systems for 1 year or 18 months from the ship date. This warranty only covers the cost of the part and not the labor for installation.
- Calls for warranty parts requests need to have specific equipment information (serial number, model number, job number) to allow proper identification and processing of the warranty part transaction.
- A purchase order may be required to issue a warranty part(s). An invoice will be sent once the part(s) are shipped to the field. You have 30 days to return the part back to APC. After 30 days, the warranty invoice will be outstanding and payment of the invoice will be expected in full.
- Return authorization documentation will be sent with the replacement part. This documentation must be sent back with the defective part to APC for proper identification of the warranty return. Mark the warranty return number on the outside of the package.
- After the part has been received at APC, we will determine the status of the credit based on the findings of the returned part. Parts that are damaged from: lack of maintenance, misapplication, improper installation, shipping damage, and acts of man/nature will not be covered under the parts warranty.
- Any warranty parts request received before 1:00 PM EST will be shipped same day standard ground delivery. Any costs associated with Next Day or Airfreight will be the responsibility of the party requesting the part.
- Return freight of warranty parts to APC is the responsibility of the party requesting the part.

Radio Frequency Interference

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

USA—FCC

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this user manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference. The user will bear sole responsibility for correcting such interference.

Canada—ICES

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Japan—VCCI

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準
に基づくクラス A 情報技術装置です。この装置を家庭環境で使用すると、電波
妨害を引き起こすことがあります。この場合には、使用者が適切な対策を講ず
るように要求されることがあります。

Taiwan—BSMI

警告使用者：
這是甲類的資訊產品，在居住的
環境中使用時，可能會造成射頻
干擾，在這種情況下，使用者會
被要求採取某些適當的對策。

Australia and New Zealand

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

European Union

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. APC cannot accept responsiblity for any failure to satisfy the protection requirements resulting from an unapproved modification of the product.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide a reasonable protection against interference with licensed communication equipment.

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Visit the APC Web site to access documents in the APC Knowledge Base and to submit customer support requests.
  - **www.apc.com** (Corporate Headquarters)
    Connect to localized APC Web sites for specific countries, each of which provides customer support information.
  - **www.apc.com/support/**
    Global support searching APC Knowledge Base and using e-support.
- Contact an APC Customer Support center by telephone or e-mail.

Regional centers:

Direct InfraStruXure Customer Support Line	(1)(877)537-0607 (toll free)
APC headquarters U.S., Canada	(1)(800)800-4272 (toll free)
Latin America	(1)(401)789-5735 (USA)
Europe, Middle East, Africa	(353)(91)702000 (Ireland)
Japan	(0) 35434-2021
Australia, New Zealand, South Pacific area	(61) (2) 9955 9366 (Australia)

Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

Contact the APC representative or other distributor from whom you purchased your APC product for information on how to obtain local customer support.

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